What Is Claimed Is:

1. A signal receiver of an OFDM system comprising:

a PLL for generating error signals using successive data among receiving signals of a symbol unit and synchronizing the receiving signals in accordance with the error signals;

an S/P converter for converting the synchronized signals to parallel signals;

a Fourier transform unit for fast Fourier transforming the converted parallel signals;

a signal modulation unit for modulating amplitude and phase of the Fourier transformed signals; and

a P/S converter for converting the modulated signals to serial signals.

2. The signal receiver of an OFDM system of claim 1, wherein the PLL includes:

a multiplexer for removing frequency offset of external receiving signals in accordance with the generated error signals;

an A/D converter for converting the signals, in which the frequency offset is removed through the multiplexer, to digital signals and outputting the converted digital signals to the S/P converter;

an error detector for adding the successive data of

the receiving signals output through the A/D converter to generate the error signals in accordance with phase difference of the receiving signals;

a D/A converter for converting the error signals generated by the error detector to analog signals;

a loop filter for converting the analog signals converted through the D/A converter to direct current (DC);

a VCO for synchronizing the error signals in accordance with the DC converted through the loop filter to remove the frequency offset of the receiving signals in the multiplexer and at the same time synchronize the receiving signals.

3. The signal receiver of an OFDM system of claim 2, wherein the error detector includes at least one buffer that stores a first resultant value obtained by adding data of a protection period corresponding to an I-1st symbol among the receiving signals output through the A/D converter to actual available data and at the same time stores a third resultant value obtained by adding the first resultant value to a second resultant value obtained by adding data of a protection period corresponding to an Ith symbol of the receiving signals to the actual available data.

4. A method for receiving signals of an OFDM system comprising the steps of:

a) generating error signals using successive data among receiving signals of the OFDM system for each unit of symbol;

b) removing frequency offset of the receiving signals in accordance with the generated error signals and synchronizing the receiving signals; and

c) modulating amplitude and phase of the synchronized receiving signals to process the modulated signals in the OFDM system.

5. The method of claim 4, wherein the step a) includes the steps of extracting signals of the protection period from the receiving signals and adding successive data of the protection period to the actual available data to generate the error signals.

6. The method of claim 5, the step a) includes the steps of:

respectively multiplying and adding L data of the protection period of the I-1st symbol by and to L actual available data to store a first resultant value;

respectively multiplying and adding L data of the protection period of the Ith symbol by and to L actual

available data to generate a second resultant value so that the second resultant value is added to the first resultant value; and

generating the error signals due to phase difference of two successive symbols in accordance with a third resultant value generated by adding the first resultant value to the second resultant value.

7. The method of claim 6, wherein the generated error signals are expressed by the following equation when $\angle$ (·) is an angle of (·):

$$e_{1M}(l) = \frac{1}{2\pi T} \angle \{ \sum_{m=0}^{M-1} \sum_{l=1}^{L} (\gamma_{I-m,N-l} \times \gamma^{*}_{I-m,-l}) \}$$

where, e_{1M} represents error signals generated in accordance with the L data, M represents the number of buffers used to store data of the protection period, N is the number of the actual available data, $\gamma_{a,b}$ represents bth data among actual available data of ath symbol, and $\gamma^{*}_{a,b}$ represents bth data among data of a protection period of the ath symbol.

8. The method of claim 7, wherein the generated error signals are expressed by the following equation when two

buffers are used to store data of the protection period in accordance with relation between complexity and performance of the OFDM system:

$$e_{1M}(l) = \frac{1}{2\pi T} \angle \{ \sum_{l=1}^{L} (\gamma_{,N-l} \times \gamma^{*}_{,-l} + \gamma_{I-1,N-l} \times \gamma^{*}{}_{I-1,-l}) \}$$

9. The method of claim 7, wherein the generated error signals are expressed by the following equation when Im(·) is an imaginary value of (·):

$$e_{2M}(l) = \frac{1}{N} \sum_{m=0}^{M-1} \sum_{l=1}^{L} \mathrm{Im}(\gamma_{I-m,N-l} \times \gamma^{*}_{I-m,-l})$$

where, $e_{2M}(l)$ represents error signals generated in accordance with the L data, M represent the number of buffers used to store data of the protection period, N is the number of the actual available data, $\gamma_{a,b}$ represents bth data among actual data of ath symbol, and $\gamma^{*}_{a,b}$ represents bth data among data of a protection period of the ath symbol.